

REMARKS

This application has been carefully reviewed in light of the final Office Action dated January 3, 2011. Claims 1 to 3, 5 to 9, 11 to 13, 16, 17, and 22 to 28 are in the application, with Claims 1, 9, and 17 being independent. Claims 4 and 10 have been cancelled without prejudice or disclaimer of subject matter. Reconsideration and further examination are respectfully requested.

Claims 1 to 13, 16, 17 and 22 to 28 were rejected under 35 U.S.C. § 103(a) over U.S. Patent Application Publication No. 2003/0132392 (Kuroda). The rejection is respectfully traversed.

According to one feature recited by Claims 1 and 17, the target substance detection element includes a plurality of metal members to give rise to localized surface plasmon resonance, wherein the metal members are arranged as spaced apart from each other on a surface of the base, and wherein each of the metal members has a loop section or a crossing section.

Figures 3 and 4 of the subject application depict example aspects corresponding to the foregoing feature. Of course, it should be noted that this cited portion depicts example aspects of the disclosure, and Claims 1 and 17 are not limited as such.

By virtue of the foregoing feature, it is possible to increase the length of contour or the number of corners of the metal members. As a result, the surface plasmon resonance can be intensified to make it possible to improve the detection sensitivity for detecting a target substance. See, for example, page 6, lines 10 to 16; page 15, lines 8 to 11; and Example 3 and Comparative Example 1 of the subject application.

Kuroda is not seen to disclose or suggest at least the foregoing feature, or the attendant benefits provided thereby.

Kuroda describes a chemical sensor utilizing surface plasmon resonance, including a substrate having a fine opening array (202, 203, or 204) formed in a metal thin film (201). See Figures 2(a) to 2(c) of Kuroda. Thus, Applicants submit that Kuroda discloses a single metal film in which a fine opening array is formed.

However, nowhere is Kuroda seen to disclose or suggest a plurality of metal members arranged as spaced apart from each other, much less that each of the metal members has a loop section or a crossing section.

According to one feature recited by Claim 9, the target substance detection element includes a metal film to give rise to surface plasmon resonance, wherein the metal film is formed on a surface of the base and has a plurality of apertures arranged as spaced apart from each other, and wherein each of the apertures has a loop section or a crossing section.

Figures 20A and 20B depict example aspects corresponding to the foregoing feature recited by Claim 9. Of course, it should be noted that this cited portion depicts example aspects of the disclosure, and Claim 9 is not limited as such.

By virtue of the foregoing feature recited by Claim 9, it is possible to increase the length of contour or the number of corners of the apertures. As a result, the surface plasmon resonance can be intensified to make it possible to improve the detection sensitivity for detecting a target substance. See, for example, page 6, lines 17 to 24, and page 26, lines 13 to 16 of the subject application.

Kuroda is also not seen to disclose or suggest the foregoing feature recited by Claim 9, or the attendant benefits provided thereby.

As mentioned above, Kuroda describes a chemical sensor utilizing surface plasmon resonance, including a substrate having a fine opening array (202, 203, or 204)

formed in a metal thin film (201). See Figures 2(a) to 2(c) of Kuroda. However, Applicants submit that the openings formed in the metal film of Kuroda are not disclosed as having a loop section or a crossing section. Rather, the openings of Kuroda are shown in Figures 2(a) to 2(c) and 7 as having a rectangular shape.

Page 3 of the Office Action states that Figures 7 and 10 of Kuroda disclose that the metal film structure is opened in different patterns (A-D) which is the same as Figures 19 and 20 of the present application. Applicants respectfully disagree.

Rather, Figures 7 and 10 of Kuroda clearly depict the openings having a rectangular shape. In contrast, Figures 19 and 20 of the instant application show a variety of shapes for the apertures recited in Claim 9 including a crossing section (e.g., a “T” or “L” section) or a loop section.

Thus, for the reasons discussed above, Applicants submit that Kuroda does not disclose or suggest that the target substance detection element includes a metal film to give rise to surface plasmon resonance, wherein the metal film is formed on a surface of the base and has a plurality of apertures arranged as spaced apart from each other, and wherein each of the apertures has a loop section or a crossing section, as recited in Claim 9.

The dependent claims are also submitted to be patentable because they set forth additional aspects and are dependent from the independent claims discussed above. Therefore, separate and individual consideration of each dependent claim is respectfully requested.

REQUEST FOR INTERVIEW

If upon consideration of this Amendment, the Examiner still has concerns as to the patentability of the claims, Applicants respectfully request that the Examiner contact Applicants' undersigned representative to arrange an interview.

CONCLUSION

The application is believed to be in condition for allowance, and a Notice of Allowance is respectfully requested.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office by telephone at (714) 540-8700. All correspondence should be directed to our address given below.

Respectfully submitted,

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